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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,605	05/10/2001	Charles Osborn Reade	FHW-081USRCE	5768
959 7590 07/03/2007 LAHIVE & COCKFIELD, LLP ONE POST OFFICE SQUARE BOSTON, MA 02109-2127			EXAMINER HEINRICH, SAMUEL M	
			ART UNIT 1725	PAPER NUMBER
			MAIL DATE 07/03/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/831,605	<b>Applicant(s)</b> READE, CHARLES OSBORN	
	<b>Examiner</b> Samuel M. Heinrich	<b>Art Unit</b> 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-7,9-14 and 16-18 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-14 and 16-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 9-14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al. FR526178A discloses (Figure 3) a flame arrester comprising an offset circuitous flow passage in which is disposed an array of rods or tubes, each being generally co-aligned and arranged transverse to the flow direction, such that fluids flowing in the passage pass between the rods or tubes. FR526178A describes (p.1, lines 49-51) describe the rods can have any polygonal shape.

Long et al disclose (Figures 6 and 7) circular section rods (29). It would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art to use a circular cross section shape because the shape is known in the art and is lower cost than polygonal shapes.

FR526178A shows (Figure 3) an array arranged with an approximate 30 degree offset.

WRT claims 16-18, assembly items for attaching a rod or tube to a mounting or to an inflow or outflow feed device are known in the art, and the use of flow reducers of flanges would have been obvious at the time applicant's invention was made to a

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person having ordinary skill in the art because the tube and/or rod fittings are well known for mounting and for adapting for input/output sizes.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al as applied to claim 6 above, and further in view of JP403054354A. The use of fins is well known as disclosed by JP403054354A and the use thereof in the Long et al device would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the fins provide a greater degree of heat transfer to the element array.

Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al as applied to claim 1 above, and further in view of USPN 5,331,943 to Ko. Ko discloses (Figures 14(A) and 14(B)) the use of a scraper. The use of a scraper in a rod or tube array would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because the scraper provides a clear flow passage and provides good heat transfer surface. The scraper described by Ko is a manual device.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over FR526178A in view of USPN 2,068,421 to Long et al and in view of USPN 5,331,943 to Ko as applied to claim 10 above, and further in view of USPN 4,437,968 to Elliott, Jr. Elliott, Jr. disclose (column 11, lines 49-60) the use of a timer controlled scraper. The use of a timer controlled scraper in a tube or rod apparatus such as disclosed by Long et al as modified by Ko would have been obvious at the time

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applicant's invention was made to a person having ordinary skill in the art because the timer provides automated cleaning and reduces manual monitoring.

Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Prior Art applied as applied to claims 1, 3-7, and 9-14 above, and further in view of SU1258428A as described by Derwent-acc-no 1987-134391. Basic abstract describes a flame arrester bolted between flanged reducers and the use of the mounting hardware would have been obvious at the time applicant's invention was made to a person having ordinary skill in the art because it provides efficient flame arrest.

### ***Response to Arguments***

Applicant's arguments filed April 13, 2007 have been fully considered but they are not persuasive.

Applicant argues the instant claimed arrester provides tube shape and array structure which has better effectiveness than the prior art. This argument is not convincing. Both the shape and array are known in the prior art and substituting a round rod or tube in place of the hex rod or tube shown in FR526178 would have been obvious. Compared to hexagonal rods or tubes, round rods or tubes are more economical to produce and lower cost would be incentive to substitute a round shape (FR526178 Figure 1) in place of a hexagonal shape (FR526178 Figure 3).

Applicant argues FR526178A teaches away from the two dimensional array. This argument, against the references individually, is not convincing because one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208

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USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). FR526178A and Long et al both disclose arrays. The tube spacing is not the same in both references, but both are arrayed and the spacing would have been obvious because the use of arrays is very well known from these old references.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both references are drawn to arrayed flame arresters.


In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel M. Heinrich whose telephone number is 571-272-1175. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J. Johnson can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Samuel M Heinrich  
Primary Examiner  
Art Unit 1725

SMH